REMARKS

The Office Action mailed June 4, 2008 has been received and reviewed. Each of claims 1-48 stands rejected. Claims 1-4, 12, 25, 30, and 39-40 have been amended herein. Support for the amendments may be found in the Specification, for instance, at ¶¶ [0023], [0042], [0047], and [0057]. It is respectfully submitted that no new matter has been added to the present application. Reconsideration of the above-identified application in view of the above amendments and the following remarks is respectfully requested.

Rejections based on 35 U.S.C. § 101

The United States Supreme Court has recognized that the expansive language of 35 U.S.C. § 101 includes as statutory subject matter "anything under the sun that is made by man." *Diamond v. Chakrabarty*, 447 U.S. 303, 308-09 (1980). The USPTO has adopted the Supreme Court's interpretation and has stated that, in practice, the complete definition of the scope of 35 U.S.C. § 101 "is that any new and useful process, machine, manufacture or composition of matter under the sun that is made by man is the proper subject matter of a patent." MPEP 2106(IV)(A). More specifically, the MPEP states that "computer programs are often recited as part of a claim." MPEP 2106.01(I). In considering such claims, "USPTO personnel should determine whether the computer program is being claimed as part of an otherwise statutory manufacture or machine. In such a case, the claim remains statutory irrespective of the fact that a computer program is included in the claim." *Id.*; *see also In re Beauregard*, 53 F.3d 1582 (Fed. Cir. 1995). "The same result occurs when a computer program is used in a computerized process where the computer executes the instructions set forth in the computer program." MPEP 2106.01(I).

Claims 39-40 stand rejected under 35 U.S.C. § 101 as being directed toward non-statutory subject matter. More specifically, claims 39-40 stand rejected under 35 U.S.C. § 101 as directed to embrace or overlap two different statutory classes of invention set forth in 35 U.S.C. 101. *See Non-final Office Action dated 06/04/2008*, p. 2. Applicant respectfully submits that claims 39-40 recite a computer-readable medium having computer-executable instructions embodied thereon for performing a method and, as such, Applicant requests withdrawal of the 35 U.S.C. ¶ 101 rejection of claims 39-40.

Rejections based on 35 U.S.C. § 112

Claims 39 and 40 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As previously discussed, it is respectfully submitted that a computer-readable medium having computer-executable instructions embodied thereon for performing a method is not indefinite for particularly pointing out and distinctly claiming the subject matter of the invention. *See* MPEP § 2106.01. As such, Applicant requests withdrawal of the 35 U.S.C. ¶ 112 rejection of claims 39 and 40.

Rejections based on 35 U.S.C. § 103

Title 35 U.S.C. § 103(a) declares, a patent shall not issue when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." The Supreme Court in *Graham v. John Deere* counseled that an obviousness determination is made by identifying: the scope and content of the prior art; the level of ordinary skill in the prior art; the differences between the

claimed invention and prior art references; and secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1 (1966).

To support a finding of obviousness, the initial burden is on the Office to apply the framework outlined in *Graham* and to provide some "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l Co. v. Teleflex Inc.,* 127 S. Ct. 1727 at 1741, 82 USPQ2d at 1396 (quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) with approval)." *See also* MPEP § 2142. "[R]ejections on obviousness cannot be sustained with mere conclusory statements." *Id.* Thus, in order to establish a *prima facie* case of obviousness the Office must provide "a clear articulation of the reason(s) why the claimed invention would have been obvious" based on factual findings made while conducting the *Graham* factual inquires. *See* MPEP § 2143. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. *Id.*

Whiting-O'Keefe and Pollack references

Claims 1-5, 7-17, and 19-40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Whiting-O'Keefe (U.S. Patent No. 6,061,657 hereinafter the "Whiting-O'Keefe reference") in view of Pollack (U.S. Patent No. 5,809,477 hereinafter the "Pollack reference"). As the asserted combination of references fail to teach or suggest all of the features set forth in the rejected claims, Applicant respectfully traverses the rejection as hereinafter set forth.

Independent claim 1 is directed to a computer-implemented method for determining an amount of work provided by a health care provider for one or more patients. The method includes obtaining data for one or more patients directly from a primary clinical information system. The method additionally includes utilizing the data to calculate a work

score for each of the one or more patients, wherein the work score indicates a quantity of personnel hours anticipated to serve each of the one or more patients. The method also includes storing the work score.

To the contrary, the Whiting-O'Keefe reference discloses a mathematical model that results in expected charges for a patient based on variables and regression coefficients. *See Whiting-O'Keefe reference*, col. 2, lines 52-56. In particular the Whiting-O'Keefe reference relates to "estimating charges for treating patients with defined primary and collateral illnesses." *See Id.*, col. 1, lines 14-15.

The Office asserts that the Whiting-O'Keefe reference discloses utilizing data to calculate a work score for each of the one or more patients, wherein the work score indicates a quantity of personnel hours anticipated to serve each of the one or more patients. *See Non-final Office Action dated 06/04/2008*, p. 3. However, the Whiting-O'Keefe reference, at FIG. 3, merely outlines "the procedures used to estimate healthcare charges." *Whiting-O'Keefe reference*, col. 5, lines 14-15. For example, the Whiting-O'Keefe reference estimates charges for various episodes and complete illnesses, where the result can then be compared with the actual charges for a particular patient. *See Id.,* col. 7, lines 55-65. Therefore, the Whiting-O'Keefe reference discloses a method for estimating charges for treating patients. It is respectfully submitted that the calculation of a work score that indicates a quantity of personnel hours anticipated to serve each patient, as recited in claim 1, is not taught or suggested by estimating expenses and charges as disclosed in the Whiting-O'Keefe reference.

The Pollack reference was cited by the Office in an attempt to demonstrate that the difference between the invention of claim 1 and the Whiting-O'Keefe reference were merely obvious differences. The Pollack reference is generally directed to quantifying the severity of

condition of patients of a pediatric hospital. *See Pollack reference*, Abstract. The severity of condition can be used to calculate a probability of death during hospitalization as well as an estimated length of stay for a patient. *Id.* The quantification of severity of a patient fails to teach or suggest calculating a work score for each patient, wherein the work score indicates a quantity of personnel hours anticipated to serve each of the one or more patients as recited in claim 1. Instead, the severity condition is useable to merely calculate the probability of death or estimated length of stay for a particular patient. The length of stay for calculation allows for the number of hospital beds in use at a current time to be calculated and to allocate hospital beds to patients awaiting to be admitted based on the estimated length of stay and the date of admission. *See Pollack reference*, col. 3, lines 55-67. Length of stay calculation therefore fail to address staffing resources, but instead are directed to the availability and number of anticipated beds available in a health care facility.

Accordingly, it is respectfully submitted that the Whiting-O'Keefe reference as modified by the Pollack reference does not teach or suggest all of the features of independent claim 1. Thus, Applicant respectfully submits that the Whiting-O'Keefe and Pollack references, either alone or in combination, fail to teach or suggest all of the features of independent claim 1. Accordingly, Applicant respectfully requests withdrawal of the rejection of claim 1 under 35 U.S.C. § 103(a). Claim 1 is believed to be in condition for allowance and such favorable action is respectfully requested

Claims 2-5 and 7-11 depend directly or indirectly from independent claim 1. As such, Applicant respectfully request withdrawal of the 35 U.S.C. § 103(a) rejections of these claims as well.

Independent claim 12 recites a computer-implemented method for determining the amount of health care provider work for a population of patients. The method includes utilizing data obtained directly from a primary clinical information system to calculate a work score for each patient in a patient population. The work score is a value that indicates an amount of work to treat each patient in the patient population. The method additionally includes storing the work score. The method also includes calculating staffing needs for the population based on the work scores obtained for the patients in the patient population.

As discussed with respect to claim 1, the Whiting-O'Keefe reference fails to teach or suggest calculating a work score for each patient, wherein the work score is a value that indicates an amount of work to treat each patient in the patient population. Instead, the Whiting-O'Keefe reference merely discloses estimating charges for a particular patient.

The Office acknowledges that the Whiting-O'Keefe reference fails to teach or suggest calculating staffing needs for the population based on the work scores. *See Non-final Office Action dated 06/04/2008*, p. 6. The Pollack reference is relied upon by the Office to cure the deficiencies of the Whiting-O'Keefe reference. The Office asserts that the Pollack reference teaches calculating staffing needs for the population based on the work scores at claim 1 (b) through (d). *Id.* However, claim 1 and the supporting disclosure within the specification merely discuss estimating a length of stay. *See Pollack reference,* Claim 1. The length of stay allows for the number of hospital beds in use at a current time to be calculated and to allocate hospital beds to patients awaiting to be admitted based on the estimated length of stay and the date of admission. The allocation of hospital beds fails to teach or suggest calculating staffing needs. In particular, the estimation of length of stay fails to teach or suggest calculating staffing needs for

the population based on the work scores obtained for the patients in the patient population, as recited in claim 12.

Accordingly, it is respectfully submitted that the Whiting-O'Keefe reference as modified by the Pollack reference, does not teach or suggest all of the features of independent claim 12. Thus, Applicant respectfully submits that the Whiting-O'Keefe and Pollack references, either alone or in combination, fail to teach or suggest all of the features of independent claim 12. Accordingly, Applicant respectfully requests withdrawal of the rejection of claim 12 under 35 U.S.C. § 103(a). Claim 12 is believed to be in condition for allowance and such favorable action is respectfully requested

Claims 13-24 depend directly or indirectly from independent claim 12. As such, Applicant respectfully request withdrawal of the 35 U.S.C. § 103(a) rejections of these claims as well.

Independent claims 25, 30, and 39-40, as amended, recite similar features to those discussed with respect to claims 1 and 12, and as such, claims 25, 30, and 39-40 are patentable over the Whiting-O'Keefe reference and the Pollock reference. Accordingly Applicant respectfully requests withdrawal of the rejection of claims 25, 30, 39, and 40 under 35 U.S.C. § 103(a). Claims 25, 30, 39, and 40 are believed to be in a condition for allowance and such favorable action is respectfully requested.

Claims 26-29 and 31-38 depend directly or indirectly from independent claims 25 and 30. As such, Applicant respectfully request withdrawal of the 35 U.S.C. § 103(a) rejections of these claims as well.

Whiting-O'Keefe, Pollack, and Richardson references

Claims 6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whiting-O'Keefeining-O'Keefe in view of Pollack in further view of Richardson et al. (U.S. Patent No. 6,193,654 hereinafter the "Richardson reference"). As claims 6 and 18 depend from previously discussed claims 1 and 12, it is respectfully submitted that the Richardson reference fails to cure the deficiencies of the Whiting-O'Keefe reference and Pollack reference. As such, Applicant respectfully request withdrawal of the 35 U.S.C. § 103(a) rejections of these claims as well.

Whiting-O'Keefe and Zaleski references

Claim 41 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Whiting-O'Keefe reference in view of Zaleski (U.S. Publication No. 2003/0101076 hereinafter the "Zaleski reference"). Claim 41 recites a computerized system for optimizing personnel planning in a healthcare organization. The system includes a work calculation module for calculating a work score for one or more patients. The system also includes a staff scheduling and staffing module for identifying healthcare personnel positions to be filled. The system also includes a role management module for managing the roles and information regarding personnel. The system also includes a workforce outcomes module for determining how effectively healthcare personnel have been used. The system additionally includes a demand forecast module for forecasting the volume and type of patients who will present. The system also includes a resource dashboard module for displaying information regarding personnel and patients.

To the contrary, the Zaleski reference is directed to a system for analyzing healthcare data. *See Zaleski reference*, ¶[0003]. In particular, the Zaleski reference is directed to

analyzing patient information, including telemetry from acute modalities, and statistical clinical data. *Id.*

The Office asserts the Whiting-O'Keefe reference teaches a work calculation module for calculating a work score for one or more patients. *See Non-final Office Action dated 06/04/2008*. p. 15. As previously discussed with respect to claims 1 and 12, it is respectfully submitted that the Whiting-O'Keefe reference fails to teach such a feature. Instead, the Whiting-O'Keefe reference merely estimates charges for a patient. *See Wit reference*, col. 2, lines 52-56.

The Office acknowledges that the Whiting-O'Keefe reference fails to teach or suggest several features of claim 41. *See Non-final Office Action dated 06/04/2008,* p. 15. The Zaleski reference is asserted in the Office Action to cure the deficiencies of the Whiting-O'Keefe reference. *Id.* For example, the Office asserts that a staff scheduling and staffing module for identifying healthcare personnel positions to be filled is taught by the Zaleski reference. *Id.* However, Applicant respectfully submit that the Zaleski reference, at the most, recognizes a need for scheduling and allocating staff to where they are needed most. *See Zaleski reference*, ¶[0007]. Recognition of a need to schedule and allocate staff falls short of teaching or suggesting, either inherently or explicitly, a module for identifying healthcare personnel positions to be filled, as recited in claim 41. Instead, recognition of a need to schedule staff is described in the Zaleski reference as "'I have this many clinical resources to apply to patients in my care. Where are those patients who will benefit most?'" *See Zaleski reference*, ¶[0081]. This allows for a staff member to identify the largest number of patients that can be helped. *Id.* Therefore, the recognition of scheduling and allocating staff as described in the Zaleski reference fails to teach or suggest a staff scheduling and staffing module for identifying healthcare personnel positions to be filled.

Further, the Office asserts the Zaleski reference teaches a role management module for managing the roles and information regarding personnel. *See Non-final Office Action dated 06/04/2008,* p. 15. As previously discussed, the Zaleski reference is directed analyzing patient information, including telemetry from acute modalities, and statistical clinical data. *See Zaleski reference*, ¶[0003]. It is respectfully submitted that the Zaleski reference fails to discuss, either expressly or inherently a module for managing the roles and information regarding healthcare personnel. Instead, at the most, the Zaleski reference analyzes a patient's information.

Additionally, the Office asserts that the Zaleski reference teaches a workforce outcomes module for determining how effectively healthcare personnel have been used. *See Non-final Office Action dated 06/04/2008,* p. 15. As previously discussed, it is respectfully submit that the Zaleski reference, at the most, recognizes a need for allocating staff to where they are needed most. *See Zaleski reference*, ¶[0007]. Recognition of a need to schedule and allocate staff does not, either inherently or explicitly, teach or suggest a module for determining how effectively healthcare personnel have been used. It is respectfully submitted that the Zaleski reference and the other references cited by the Office fail to discuss a workforce outcomes module for determining how effectively healthcare personnel have been used as recited in claim 41.

Accordingly, it is respectfully submitted that the Whiting-O'Keefe reference as modified by the Zaleski reference does not teach or suggest all of the features of independent claim 41. Thus, Applicant respectfully submits that the Whiting-O'Keefe and Zaleski references, either alone or in combination, fail to teach or suggest all of the features of independent claim 41. Accordingly, Applicant respectfully requests withdrawal of the rejection

of claim 12 under 35 U.S.C. § 103(a). Claim 41 is believed to be in condition for allowance and such favorable action is respectfully requested.

Whiting-O'Keefe, Zaleski, and Ross references

Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whiting-O'Keefe in view of Zaleski in further view of Ross, Jr. et al. (U.S. Patent No. 7,076,436 hereinafter the "Ross reference"). As claims 42 and 43 depend from previously discussed claim 41, it is respectfully submitted that the Ross reference fails to cure the deficiencies of the Whiting-O'Keefe reference and Zaleski reference. As such, Applicant respectfully request withdrawal of the 35 U.S.C. § 103(a) rejections of these claims as well.

Whiting-O'Keefe, Zaleski, Ross, and Richardson references

Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whiting-O'Keefe in view of Zaleski, in view of Ross, in further view of Richardson. As claims 44 and 45 depend from previously discussed claim 41, it is respectfully submitted that the Richardson reference fails to cure the deficiencies of the Whiting-O'Keefe reference, Zaleski reference, and Ross reference. As such, Applicant respectfully request withdrawal of the 35 U.S.C. § 103(a) rejections of these claims as well.

Whiting-O'Keefe, Zaleski, Ross, Richardson , and Pollack references

Claims 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whiting-O'Keefe in view of Zaleski, in view of Ross, in view of Richardson, in further view of Pollack. As claims 46 and 47 depend from previously discussed claim 41, it is respectfully submitted that the Pollack reference fails to cure the deficiencies of the Whiting-O'Keefe

reference, Zaleski reference, Ross reference, and Richardson reference. As such, Applicant respectfully request withdrawal of the 35 U.S.C. § 103(a) rejections of these claims as well.

Whiting-O'Keefe, Zaleski, Ross, Richardson, Pollack, and Brandt references

Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Whiting-O'Keefe in view of Zaleski, in view of Ross, in view of Richardson, in view of Pollack, in further view of Brandt et al. (U.S. Publication No. 2003/0050797 hereinafter the "Brandt reference"). As claim 48 depends from previously discussed claim 41, it is respectfully submitted that the Brandt reference fails to cure the deficiencies of the Whiting-O'Keefe reference, Zaleski reference, Ross reference, and Pollack reference. As such, Applicant respectfully request withdrawal of the 35 U.S.C. § 103(a) rejections of these claims as well.

CONCLUSION

For at least the reasons stated above, claims 1-48 are now in condition for allowance. Applicants respectfully request withdrawal of the pending rejections and allowance of the claims. If any issues remain that would prevent issuance of this application, the Examiner is urged to contact the undersigned – 816-474-6550 or cwfisher@shb.com (such communication via email is herein expressly granted) – to resolve the same. It is believed that no additional fee is due, however, the Commissioner is hereby authorized to charge any amount required to Deposit Account No. 19-2112 referencing Attorney Docket No. CRNI.108473.

Respectfully submitted,

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